

What is claimed is:

1. A surface acoustic wave filter with attenuation poles comprising:

a two-port circuit for filtering for forming a ladder  
5 type surface acoustic wave filter with a surface acoustic wave resonator; and

a two-port circuit for impedance formed of an impedance serially connected,

wherein the impedance of the two-port circuit for  
10 impedance is configured so as to form an attenuation band of a predetermined width having a sufficient attenuation characteristic on a low frequency side of a pass band.

2. A surface acoustic wave filter with attenuation poles  
15 according to claim 1, wherein the impedance of the two-port circuit for impedance is formed of a resistance and an inductance.

3. A surface acoustic wave filter with attenuation poles  
20 according to claim 1, wherein the impedance of the two-port circuit for impedance is formed of an impedance of a bonding wire.

4. A surface acoustic wave filter with attenuation poles  
25 comprising:

a two-port circuit for filtering for forming a ladder type surface acoustic wave filter with a surface acoustic wave resonator; and

a two-port circuit for impedance formed of an impedance  
5 serially connected,

wherein the two-port circuit for impedance is configured of a  $\pi$  type circuit formed of three impedances so as to form an attenuation band of a predetermined width having a sufficient attenuation characteristic on a low frequency side of a pass  
10 band.

5. A surface acoustic wave filter with attenuation poles according to claim 4, wherein a bonding wire is used as the three impedances of the two-port circuit for impedance.  
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6. A surface acoustic wave filter with attenuation poles according to claim 2, wherein two bonding wires with three electrodes are used as the impedance of the two-port circuit for impedance.  
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7. A surface acoustic wave filter with attenuation poles according to claim 2, wherein two bonding wires with three electrodes are used for the impedance of the two-port circuit for impedance, and a capacitance is connected in parallel to  
25 one of the bonding wires.

8. A surface acoustic wave filter with attenuation poles according to claim 1, wherein an inductance is set almost constant to 1 nH and a resistance is set to any given value  
5 ranging from 0.20 to 1.20  $\Omega$  in the impedance.

9. A surface acoustic wave filter with attenuation poles according to claim 1, wherein an inductance is set almost constant to 0.5 nH and a resistance is set to any given value  
10 ranging from 0.10 to 0.60  $\Omega$  in the impedance.